

1 CLAIMS

2 ¹⁷
3 ~~1.~~ A spring having force levels varying by less than 30% over more than 40% of
4 maximum deflection capacity during loading, comprising a pseudoelastic element
5 that has a memory shape with at least one segment where at least one of flexural
6 and torsional deformations concentrate.

7 ¹⁸
8 ~~2.~~ The spring according to claim ¹⁷ 1, wherein regions of said pseudoelastic element
9 outside segments where concentrated deformations occur are stiffened.

10 ¹⁹
11 ~~3.~~ The spring according to claim ¹⁷ 1, wherein said pseudoelastic material is formed of
12 elements selected from the group consisting essentially of Ni, Ag, Au, Cd, In, Ga,
13 Si, Ge, Sn, Sb, Zn, Nb, Cu, Co, Fe, Mn, Pt, Al, Ti, Cr, Be, C and Tl, and
14 combinations thereof.

15 ²⁰
16 ~~4.~~ The spring according to claim ¹⁷ 1, wherein said pseudoelastic element has been
17 formed and then heat treated when restrained in order to assume said memory
18 shape.

19 ²¹
20 ~~5.~~ The spring according to claim ¹⁷ 1, wherein said pseudoelastic element has been
21 heat treated in free condition after establishment of said memory shape.

22 ²²
23 ~~6.~~ The spring according to claim ¹⁷ 1, wherein said force levels are applied and
24 removed at least once for improving stability under subsequent repeated load
25 application.

26 ²³
27 ~~7.~~ The spring according to claim ¹⁷ 1, wherein said pseudoelastic element has at least one
28 of rectangular, circular and elliptical cross sections.